8:45

DOES LEFT VENTRICULAR EJECTION FRACTION FOLLOWING THROMBOLYTIC THERAPY HAVE THE SAME PROGNOSTIC IMPACT DESCRIBED IN THE PRETHROMBOLYTIC ERA? RESULTS OF THE TIMI II TRIAL.

Barry L. Zaret, Frans J. Wackers, Michael Terrin, Richard Ross, Genell Knatterud, Eugene Braunwald and the TIMI Investigators, Yale Univ., New Haven, CT, USA

In the prethrombolytic era, left ventricular ejection fraction (LVEF) was a useful prognostic index in acute myocardial infarction (MI). Recently, discrepancies have been noted between effects of thrombolysis on LV function and survival. Accordingly, we evaluated the prognostic impact of prehospital discharge (HD) LVEF at rest, determined by radionuclide ventriculography, in 2989 of 3339 TIMI patients (pts). All pts received iv rt-PA for MI and were randomized to either invasive (PTCA at 18-48 hrs) or conservative (no routine PTCA) strategies. Life table data:

		LVEF (%)				
	No study	<30	30-39	40-49	50-59	≥60
N (pts)	448	160	354	596	826	605
Death at 1 yr	30	16	11	12	10	7
Mortality (%)	6.8	10.0	3.1	2.0	1.2	1.2

Highest mortality (mort) was in pts with LVEF <30%. For each LVEF level, mort was substantially lower than in the prethrombolytic era, when pts with LVEF <40% had a 15% 1 year mort. Compared to earlier studies, the TIMI LVEF-mort curve is markedly shifted downward. Pts not studied (often for clinical reasons) also had a poor prognosis. Thus, while LVEF remains an important prognostic index, at any level of LVEF, mort is lower than noted in the prethrombolytic era. In addition to preserving LV myocardium, thrombolytic therapy also appears to enhance survival at any level of LV function.

9:00

INFARCT RELATED ARTERY PATENCY: AN INDEPENDENT PREDICTOR OF THREE YEAR SURVIVAL AFTER ACUTE MYOCARDIAL INFARCTION.

Mark M. Bernardi, Patrick L. Whitlow, The Cleveland Clinic Foundation, Cleveland, Ohio.

Patency of the infarct-related artery (IRA) after an acute myocardial infarction (AMI) may represent an independent prognostic factor influencing follow-up morbidity and mortality. This retrospective study was designed to determine the influence of persistent antegrade flow in an IRA on prognosis after AMI. Over a 6 year period, 300 pts (233 men, 67 women) who underwent cardiac catheterization within 6 weeks after an AMI were followed for an average of 42 ± 17 months. Group I consisted of 155 pts with IRA patency, or antegrade flow established by angioplasty (104) or bypass surgery (26); Group II consisted of 145 pts without antegrade flow demonstrated in the IRA, and without revascularization. There were no significant differences in sex, age, extent or location of coronary disease, underlying risk factors for atherosclerotic heart disease, or duration of follow-up. There was a significant difference in mortality between Group I and Group II, with 13 (8.3%) deaths in Group I and 26 (18%) deaths in Group II ($p<00.1$). In multivariate analysis, both LV function ($p<0.001$) and IRA patency ($p<0.05$) were independent predictors of survival. The incidence of congestive heart failure in Group I was significantly less than than in Group II, 11% versus 30% ($p=0.005$). Complications of AMI including ventricular aneurysm, cardiogenic shock, and severe acute mitral regurgitation occurred in none of the patients in Group I and in 12, 9, and 5 pts respectively in Group II ($p<0.01$).

In conclusion, infarct artery patency (whether resulting from spontaneous lysis or after intervention) is a strong predictor of complications of MI as well as of three year survival. These retrospective data support the practice of aggressive revascularization until more definite answers become available from prospective, randomized trials.

9:15

MAXIMAL VERSUS LOW LEVEL EXERCISE TESTING AFTER Q AND NON-Q WAVE MYOCARDIAL INFARCTION

Martin Juneau, Pierre Théroux, Philippe Colles, Pierre de Guise, Jules Lam, Guy Pelletier, David Waters, Montreal Heart Institute, Montreal, Canada

After an uncomplicated myocardial infarction (MI), 173 consecutive pts (125 Q and 48 non-Q wave MI) were submitted to a randomized sequence of 2 predischarge exercise tests (ET): a low level (70% of maximal predicted heart rate (HR) or 5 Mets) and a maximal symptom-limited ET, performed 24 hours apart, 7±2 days post-MI.

Results (n=173):	Submaximal	Maximal	p value
Duration (sec)	383±130	555±216	.0001
Mets	4.2±1.2	5.6±1.8	.0001
Maximum HR (bpm)	107±16	121±20	.0001
% max. HR attained	66±10	74±12	.0001
Angina (# pts)	20(11%)	34(19%)	.03
↓ ST ≥1 mm:			
- total	44(25%)	76(43%)	.0003
- Q wave MI (n=124)	29(23%)	54(43%)	.008
- non-Q wave MI (n=47)	11(32%)	21(45%)	NS
- thrombolysis (n=97)	17(17%)	34(35%)	.005
- no thrombolysis (n=76)	27(36%)	42(55%)	.01

ST depression occurred in 76 symptom-limited vs 44 low level tests, an increase in yield of 73% ($p<.0003$). The difference was most marked for Q wave MIs, where the increase was 86% ($p<.0008$), vs only 40% for non-Q wave MIs (p=NS). Pts who had not received thrombolytic therapy were more likely to show exercise-induced ST depression during both tests ($p<.008$).

Conclusion: After an uncomplicated MI, the added yield from a maximal symptom-limited ET appears to be more for Q wave than for non-Q wave MI. Exercise-induced ST depression with either test is less in pts who have received thrombolytic therapy.

9:30

RESIDUAL STENOSIS MORPHOLOGY DOES NOT PREDICT CLINICAL COURSE AFTER CORONARY THROMBOLYSIS

Albert Meyer, Christ J. Werter, Freek W.A. Verheugt, Kong I. Lie, Joop M.J. van der Pol. Free University Hospital, Amsterdam, and Interuniversity Cardiology Institute, The Netherlands

Recurrent ischemia remains a major problem after coronary thrombolysis for acute myocardial infarction. The angiographic morphology of the residual stenosis might predict recurrent ischemia and could be helpful in risk stratification.

In 177 patients (pts) with acute myocardial infarction treated with early (< 4 hours) intravenous thrombolysis coronary angiography within 48 hours showed a patent infarct related vessel. Stenoses were considered smooth, or complex (irregular, sharp angled or a with a filling defect). After thrombolysis pts were treated conservatively unless ischemia unresponsive to medical therapy recurred. We related residual stenosis morphology to the clinical course during 3 months follow-up

RESULTS

residual stenosis morphology:	smooth (n=112)	complex (n=65)
unstable angina	11 (10%)	10 (15%)
angioplasty	10 (9%)	5 (8%)
bypass surgery	2 (2%)	3 (5%)
reinfarction	11 (10%)	4 (6%)
mortality	2 (2%)	0 (0%)
total	36 (32%)	22 (34%)

We conclude that, in this series, a complex morphology of the residual stenosis does not have an unfavorable effect on the clinical course. These data do not justify the routine use of coronary angiography after thrombolysis for acute myocardial infarction.